

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A patient monitoring system for a sedation and/or analgesia procedure, comprising:

a first patient health monitor device adapted so as to be coupled to a patient and so as to generate a first signal reflecting a first parameter of a physiological condition of the patient;

a second patient health monitor device adapted so as to be coupled to the patient and so as to generate a second signal reflecting a second parameter of a physiological condition of the patient, wherein said first parameter and said second parameter are interrelated such that said first and said second signal are indicative of a single patient condition associated with said sedation and/or analgesia procedure ;

a memory device storing a safety data set reflecting parameters for each of said first and second physiological conditions;

an electronic controller **accessing safety parameters for each of said first and second physiological conditions operatively connected to** ~~interconnected with~~ said first and second patient health monitors ~~and said memory device~~, wherein the electronic controller compares said first and second parameters with said safety **parameters** ~~data set~~ so as to initiate a response upon detection of undesirable signals from both of said first and second patient health monitor devices so as to facilitate conservative application of sedatives or analgesic drug delivery.

Claim 2 (Original): The patient monitoring system of claim 1, wherein said first and second patient health monitoring devices are each independently selected from the group consisting of non-invasive blood pressure monitors, pulse oximeters, capnometers, ECGs, patient consciousness assessment systems, ventilatory flow monitors, ventilatory pressure monitors, impedance plethysmographs (IPGs), gas analyzers, ventilatory temperature monitors, ventilatory humidity monitors, and acoustical monitors.

Claim 3 (Previously presented): The patient monitoring system of claim 1, wherein said response comprises at least one of decreasing drug levels, delivering oxygen, changing drugs, testing patient responsiveness, and delivering positive airway pressure.

Claim 4 (Currently amended): The patient monitoring system of claim 1, wherein said ~~memory device stores a safety data set for a third patient parameter and wherein said~~ electronic controller further **accesses a third patient parameter and** comprises using the monitored data for the first patient parameter and the second patient parameter to calculate said third patient parameter that is compared against said safety **parameters** ~~data set~~ for said third patient parameter.

Claim 5 (Currently amended): A method for employing sensor fusion in a sedation and analgesia system, comprising the following steps:

providing at least one patient monitor corresponding to a first patient parameter and at least one patient monitor corresponding to a second patient parameter, wherein said parameters are interrelated and each of said monitors provide data indicative of a single patient condition associated with use of said sedation and/or analgesia system;

monitoring at least two of said interrelated patient parameters;[[,]]

ascertaining whether any of said data is indicative of a negative patient episode;

if any of said data is indicative of a negative patient episode, determining whether there is agreement between each monitor; and

initiating a suitable procedure in response to said data indicative of a negative patient episode so as to facilitate conservative application of sedative[[s]] or analgesic drug delivery.

Claim 6 (Currently amended): The method of claim 5, wherein said step of ascertaining further comprises comparing said data from each of the monitors against a **set of** safety **parameters** ~~data set~~.

Claim 7 (Previously presented): The method of claim 5, wherein said suitable procedure comprises at least one of decreasing drug levels, delivering oxygen, changing said drugs supplied

to the patient, testing patient responsiveness, and delivering positive airway pressure.

Claim 8 (Currently amended): The method of claim 5, wherein said step of determining whether there is agreement between each monitor comprises comparing data from each of said monitors with a respective set of safety parameters ~~data-set~~.

Claim 9 (Currently amended): The method of claim 8, wherein said step of determining whether there is agreement between each monitor further comprises evaluating the relationship between said data for said monitored parameters that fall within said set of safety parameters ~~data-set~~.

Claim 10 (Original): The method of claim 5, further comprising continuing to gather data from the monitors for a predetermined period of time before said suitable procedure is initiated.

Claim 11 (Original): The method of claim 5, wherein said first patient parameter comprises electrical heart activity and said second patient parameter comprises pulse oximetry.

Claim 12 (Currently amended): The method of claim 5, further comprising after said monitoring step, the step of using the monitored data for the first patient parameter ~~parameter~~ and the second patient parameter to calculate a third patient parameter.

Claim 13 (Currently amended): The method of claim 12, wherein said step of ascertaining further comprises comparing said third patient parameter against a set of safety parameters ~~data set~~.

Claim 14 (Currently amended): A method for employing sensor fusion in a drug delivery system during delivery of a sedative and/or analgesic drug, comprising the following steps:

providing at least one patient monitor corresponding to a first patient parameter and at least one patient monitor corresponding to a second patient parameter, wherein said parameters are interrelated and each of said monitors provide data;

monitoring at least two of said interrelated patient parameters,
ascertaining whether the data from any of said monitors is conclusive of a potentially critical condition;

if data is inconclusive, **providing normal system functionality without alerting clinicians while** analyzing the data from said first and second patient parameters to determine whether one monitor can confirm the potentially critical condition indicated by at least one other monitor; and

if data is conclusive of a potentially critical condition, alerting clinicians to the detected data and initiating a suitable automated or semi-automated procedure desirable to place the patient into a safe state.

Claim 15 (Original): The method of claim 14, wherein said data is processed by a controller.

Claim 16 (Currently amended): The method of claim 15, further comprising the step of ascertaining whether the clarified data is indicative of a negative patient condition based on a **set of safety parameters** ~~safe data set~~ programmed into the controller.

Claim 17 (Previously presented): The method of claim 14, wherein said suitable procedure comprises at least one of decreasing drug levels, delivering oxygen, changing said drugs supplied to the patient, and delivering positive airway pressure.

Claim 18 (Previously presented): The method of claim 14, wherein said step of alerting clinicians comprises providing different alarm modes that vary depending on whether the data inconclusively or conclusively indicates the potentially critical condition.

Claim 19 (Original): The method of claim 14, wherein said first patient parameter comprises capnometry and said second patient parameter comprises ventilatory pressure.

Claim 20 (Original): The method of claim 14, further comprising after said monitoring step, the step of using the monitored data for the first patient paramater and the second patient parameter

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to calculate a third patient parameter.

Claim 21 (Original): The method of claim 20, comprising integrating blood pressure data with pulse oximetry data, where such an interrelation may provide monitoring of the systemic vascular resistance.